

### **REMARKS**

Applicant would like to thank the Examiner for the thorough review of the present application. As discussed in detail below, the present claims include recitations that patentably distinguish the claimed invention over the cited references, taken individually or in combination. Based upon the following remarks, Applicant respectfully requests reconsideration of the present application and allowance of the pending claims.

#### **Claim Rejections Under 35 U.S.C. § 103(a)**

Claims 1-9 and 12-16 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Korean Patent Application No. 2000-0000244, published in the name of Park (hereinafter, the Park publication) in view of Korean Patent Application No. 1999-0055454, published in the name of Hong Park (hereinafter, the Hong Park publication).

Claims 10 and 17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the Park publication in view of the Hong Park publication and in further in view of United States Patent No. 6,603,844, issued in the name of inventor Chavez, Jr. et al. (hereinafter, the Chavez patent).

Applicant respectfully submits that these rejections are overcome by the following arguments. The arguments are presented in the order in which the elements appear in the claims and, therefore, do not reflect an order of significance. Thus, Applicant desires that the Examiner consider each argument independently.

#### **Distinguishing Arguments Pertaining to Independent Claim 1**

The Park Publication Does Not Teach or Suggest an HLR Furnishing an Exchanger,  
When a Terminal is Registered through the Exchanger, with First Information on Whether an  
Ordinary Tone is to be Replaced or Not and Second Information Informing a Route to a Sound  
Providing Means

The first step of Claim 1 requires that HLR furnishing an Exchanger, when a terminal is registered through the exchanger, with first information on whether an ordinary tone is to be replaced or not and second information informing a route to a sound providing means. In this regard, the first step of claim 1 requires that the HLR provide the exchanger with tone replacement status and the route the sound providing means.

As described at page 6, beginning at line 20, “the HLR...has in every subscriber profile the first information...and the second information. *Every mobile exchanger in the network, that functions as a conventional network element, receives the first and second information of a subscriber through communicating with the HLR when the subscriber requests location registration*” (emphasis added).

Additionally, as described at page 8, beginning at line 17, “if location registration for that subscriber is requested from an exchange server, ...the HLR provides service-related information and routing information for the exchanger that requested location registration.”

The Park publication, at page 4 lines 4-5, teaches that steps S1000 to step 14000 are “*the same call processes as stages of the conventional technique.*” (Emphasis added). Specifically, the transmitting Exchange transmits a location request to a HLR (S1000). The HLR carries out a routing request for an inquiry to connect a called device to a reception MSC/VLR (S1100). The reception exchange MSC/VLR transmits the routing return response to the HLR (S1200) and the HLR transmits the location return response to the transmitting Exchanger (S1300). At which an ISUP call set up is carried out from the transmitting Exchanger to the reception exchanger (S1400).

In the Park publication, page 4, lines 16-19, the tone replacement status (i.e., whether or not the sound is the ringback tone or the alternative sound) is determined by a set value of the termination trigger field *stored in a database of the receiver exchanger* (emphasis added). At step S1500, shown in Fig. 2 of the Park publication, the receiver exchanger sends “analyzed information” to a Service Control Point (SCP). The analyzed information includes the termination trigger field (i.e., the tone replacement status), the storage of the alternative sound in a certain IP and the search for the corresponding IP through a certain path, among other information.

Thus, in the Park publication the first (i.e., sound replacement status) and second information (i.e., sound replacement route) are stored in a database of the receiver exchanger and is sent to the SCP. This is in contrast to the first step of claim one of the present invention, which requires that the first and second information be furnished from the HLR to an exchanger (i.e., the terminating exchanger (32)/receiver exchanger), when a terminal is registered through the exchanger.

The Park Publication Does Not Teach or Suggest Determining a Tone Replacing Sound Based on the Received Third Information on Call State

The third step of claim 1, requires that the sound providing means determine a tone replacing sound based on the third information, which as defined in the second step, is call state information. Call state information is defined in the specification and in the art as, an idle state, a busy state, a call-waiting state and the like.

The Examiner has admitted that the Park publication does not teach or suggest furnishing the sound providing means with third information on the call state. This is because the Park publication is limited to retrieving an alternative sound for a ringing state and, therefore, in the teachings of the Park publication the call state is not required because only the ringing state is afforded an alternative sound.

Therefore, it cannot be properly asserted that the Park publication teaches determining, at the sound providing means, a tone replacement sound *based on the third information*, which is call state.

The Hong Park Publication Does Not Teach or Suggest Furnishing the Sound Providing Means with Third Information on Call State nor Determining, at the Sound Providing Means, a Tone Replacing Sound Based on the Received Third Information on Call State

The second step of claim 1 requires that the sound providing means be furnished by the exchanger with third information on call state. As previously noted, the third step of claim 1, requires that the sound providing means determine a tone replacing sound based on the third information, which as defined in the second step, is call state information. Call state information is defined in the specification and in the art as, an idle state, a busy state, a call-waiting state and the like.

The Examiner relies on the Hong Park publication for a general teaching of call state information used in a tone replacement process. However, the tone replacement process that is taught by the Hong Park publication, is device-based tone replacement and is therefore limited to replacing tones experienced on the device. Hence, the user/subscriber can configure the telephone to replace conventional tones with a voice message, music, another tone or the like. Each call state that the user device experiences, for example a busy signal state, a ringing state, an idle line state and the like can be assigned a different voice message, a music file, another tone or the like. The Hong Park publication does not teach or suggest a network based system for tone replacement such a calling party may experience tone replacements if the called party subscribes to a tone replacement subscription. In this regard, the present invention is unique, in that, it provides the subscriber a means for identifying themselves by providing a voice message or a unique sound to the calling party when they call the subscriber. The Hong Park publication does not provide tone replacement to calling devices (i.e., other devices that call the user's device) because tone replacement is limited to the sounds which the user of the device experiences.

Therefore, the Hong Park publication does not teach or suggest sending call state information *from an exchanger in a communication network* to a sound providing means and having the sound providing means determine the tone-replacing sound based on the received third information. As previously noted, the tone switching system of the Hong Park publication is device based, therefore, no call state data is sent from an exchanger in a communication network to a sound producing means in a communication network. Furthermore, the Hong Park publication limits determination of a tone-replacing sound based on received call data to having a device-based CPU check a call state table to determine if an alternate sound has been assigned. It cannot be properly asserted that the Hong Park publication teaches determines a tone-replacing sound based on the received call state at a sound producing means disposed in a communication network.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of Claim 1.

#### Distinguishing Arguments Pertaining to Independent Claim 2

The first step of claim two is identical to the first step of claim one, therefore the distinguishing arguments that apply to the first step of claim one are equally applicable to claim two. For the sake of brevity, the arguments presented above in relation to the first step of claim one, specifically the argument that the Park publication lacks a teaching of an HLR furnishing an Exchanger, when a terminal is registered through the exchanger, with first information on whether an ordinary tone is to be replaced or not and second information informing a route to a sound providing means, will not be reproduced in this section of the response.

The Park Publication Does Not Teach Or Suggest Requesting, by an Exchanger, a First Trunk Connection to the Sound Providing Means, if the Terminal is Called by a Latter Caller Under Already-Connected Condition to a Former Caller.

The second step of claim 2 requires that the terminating/receiving exchanger request a first trunk connection to the sound providing means, if the terminal is called by a later caller under

already-connected condition to a former caller based on the first and second information (i.e. the sound replacement status and the sound replacement route, respectively) and providing the sound replacing means with third information on call state (in this instance, call waiting). In other words, the exchanger requests a trunk connection to the sound providing means if the terminal is receiving a call from a later caller but is already participating in another call with a former caller (i.e., a call-waiting situation).

The Park publication does not teach or suggest sound replacement or alternative sounds for the situation in which the device receives a call from a later caller but is already participating in another call with a former caller (i.e., a call-waiting situation). As such, the Park publication does not teach or suggest requesting, by the terminating exchanger, a trunk connection to the sound providing means, *if the terminal is called by a latter caller under already-connected condition to a former caller.*

The Hong Park Publication Does Not Teach or Suggest Requesting, by an Exchanger, a First Trunk Connection to the Sound Providing Means, *if the Terminal is Called by a Latter Caller Under Already-Connected Condition to a Former Caller.*

As noted above, the second step of claim 2 requires that the terminating/receiving exchanger request a first trunk connection to the sound providing means, if the terminal is called by a later caller under already-connected condition to a former caller based on the first and second information (i.e. the sound replacement status and the sound replacement route, respectively) and providing the sound replacing means with third information on call state (in this instance, call waiting).

The Hong Park publication teaches an alternative sound replacement that is device-based as opposed to network-based, as such the sound replacement that is taught by the Hong Park publication is limited to sounds that occur when the device on which the system is implemented experiences a sound. The Hong Park publication does not teach or suggest providing a party that calls the device (i.e. the calling party) with an alternative or replacement sound. In table 1 of the Hong Park publication the voice messages that are recorded as replacement messages are

subsequently provided to the user of the devices when they experience the call state associated with the voice message. These voice messages are not provided to someone who would call the device (i.e., the calling party). For example, referring to table 1, if the user of the device calls someone and experiences a busy state, the device will replace the busy signal tone with item 2 in table one, the voice message, "The line is busy. Please call again." However, if someone calls the device and the device is already participating in another call, the calling party does not receive the voice message, they receive the conventional busy signal. In the present invention, since the system is network-based, it allows the calling party to receive an alternate sound as defined by the called party (i.e., the caller that subscribes to the service).

Thus, the Hong Park publication does not teach or suggest a terminating/receiving exchanger requesting a first trunk connection to the sound providing means, if the terminal is called by a later caller under already-connected condition to a former caller based on the first and second information (i.e. the sound replacement status and the sound replacement route, respectively) and providing the sound replacing means with third information on call state (in this instance, call waiting).

The Park Publication Does Not Teach Or Suggest Determining a Tone Replacing Sound Based on the Received Third Information on Call State Nor Providing the Determined Tone-replacing Sound as a RingBack to the Latter Caller Through the Exchanger.

The third step of claim 2 requires that the sound providing means determine a tone replacing sound based on the third information, which as defined in the second step, is call state information. Call state information is defined in the specification and in the art as, an idle state, a busy state, a call-waiting state and the like. The third step also requires that the determined tone-replacement sound be sent as a ringback to the latter caller.

As previously noted, the Examiner has admitted that the Park publication does not teach or suggest furnishing the sound providing means with third information on the call state. This is because the Park publication is limited to retrieving an alternative sound for a ringing state and, therefore, in the teachings of the Park publication the call state is not required because only the

ringing state is afforded an alternative sound. As such, the Park Publication does not teach or suggest determining, at the sound providing means, a tone replacement sound based on the call state. Additionally, the Park publication does not teach or suggest sound replacement or alternative sounds for the situation in which the device receives a call from a later caller but is already participating in another call with a former caller (i.e., a call-waiting situation). As such the Park publication does not teach or suggest providing the tone-replacement sound as a ringback to the latter caller.

The Hong Park Publication Does Not Teach or Suggest Providing the Tone-Replacing Sound as a Ringback to the Latter Caller Through the Exchanger.

The third step of claim 2 requires that the determined tone-replacement sound be sent as a ringback to the latter caller.

As previously noted, the teachings of the Hong Park publication are device-based tone replacement, as opposed to the network-based tone replacement system of the present invention. As such, the Hong Park publication teaching is limited to providing replacement tones to the device on which the system/CPU resides. The Hong Park publication does not teach or suggest providing replacement tones to the calling party and, more specifically a latter calling party, when the called party is already participating in another call with a former caller. Thus, the Hong Park publication does not teach or suggest providing a tone-replacement sound as a ringback to a latter caller through the exchanger.

The Hong Park Publication Does Not Teach Or Suggest Requesting a Second Trunk Connection to the Sound Providing Means for the Connected Former Caller While Providing the Sound Providing Means with Fourth Information on Call-Switched.

The fourth step of claim 2 requires requesting a second trunk connection to the sound providing means for the connected former caller while providing the sound providing means with fourth information on call-switched. This is the instance in which the called party chooses to participate in a call with the latter caller and place the former caller on hold. The second trunk



connection to the sound providing means is made to acquire a tone-replacing sound for former caller that is currently in a call-switch or hold state.

As previously noted, the teachings of the Hong Park publication are device-based tone replacement, as opposed to the network-based tone replacement system of the present invention. As such, the Hong Park publication teaching is limited to providing replacement tones to the device on which the system/CPU resides. The Hong Park publication does not teach or suggest providing replacement tones to the calling party and, more specifically a former caller who has been placed in a call-switch or holding state. Further since, the Hong Park publication is a device-based system, the Hong Park publication does not teach requesting trunk connections. Thus, the Hong Park publication does not teach or suggest requesting a second trunk connection to the sound providing means for the connected former caller while providing the sound providing means with fourth information on call-switched.

The Park Publication Does Not Teach or Suggest Determining, by the Sound Providing Means, a Tone-replacing Sound Based on the Received Fourth Information on Call-Switched.

The fifth step of claim 2 requires that the sound providing means determine a tone replacing sound based on the fourth information, which as defined in the fourth step, is call-switching state information. Call-switching state information is defined in the specification and in the art as, the instance in which a call is switch from one calling party to another calling party.

The Examiner has admitted that the Park publication does not teach or suggest furnishing the sound providing means with fourth information on the call-switching state. This is because the Park publication is limited to retrieving an alternative sound for a ringing state and, therefore, in the teachings of the Park publication the call state is not required because only the ringing state is afforded an alternative sound.

Therefore, it cannot be properly asserted that the Park publication teaches determining, at the sound providing means, a tone replacement sound *based on the fourth information*, which is call-switching state.

The Hong Park Publication Does Not Teach or Suggest Providing the Determined Tone-Replacement Sound as a Call-Waiting Tone to the Former Caller Through the Exchanger.

The fifth step of claim 2 further requires providing the determined tone-replacement sound as a call-waiting tone to the former caller through the exchanger. In this regard the former caller that has been placed on hold is provided a replacement sound as opposed to the conventional call-waiting or hold tone.

As previously noted, the teachings of the Hong Park publication are device-based tone replacement, as opposed to the network-based tone replacement system of the present invention. As such, the Hong Park publication teaching is limited to providing replacement tones to the device on which the system/CPU resides. The Hong Park publication does not teach or suggest providing replacement tones to the calling party and, more specifically a former caller who has been placed in a call-switch or holding state. Further since, the Hong Park publication is a device-based system, the Hong Park publication does not teach providing a tone-replacement sound through an exchanger. Thus, the Hong Park publication does not teach or suggest providing the determined tone-replacement sound as a call-waiting tone to the former caller through the exchanger.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of Claim 2. Claim 4 is believed allowable for at least the same reasons as presented above with respect to Claim 2 by virtue of its dependence from Claim 2. Claims 3, 5-11 are believed allowable for at least the same reasons as presented above with respect to Claim 1 and Claim 2 by virtue of their dependence from Claim 1 or Claim 2.

**Conclusion**

Therefore, all objections and rejections having been addressed, it is respectfully submitted that the present application is in condition for allowance and a Notice to that effect is earnestly solicited. Should any questions remain unresolved, the Examiner is encouraged to contact the undersigned attorney for Applicants at the telephone number indicated below in order to expeditiously resolve any remaining issues.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,  
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